MEASUREMENT REPORT

FCC PART 2 & 22 & 24 & 27

FCC ID:	ZMOFM101GL
Applicant:	Fibocom Wireless Inc.
Application Type:	Certification
Product:	LTE Module
Model No.:	FM101-GL
Brand Name:	Fibocom
FCC Rule Part(s):	Part 2, 22 (H), 24 (E), 27
Test Procedure(s):	ANSI C63.26: 2015
Test Date:	October 22 ~ December 08, 2021

Reviewed By: Sunny Sun

Approved By: Robin Wu

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.26-2015. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date	Note
2110RSU029-U2	Rev. 01	Initial Report	12-17-2021	Invalid
2110RSU029-U2	Rev. 02	Corrected the calibration date of equipment	12-22-2021	Valid

CONTENTS

1. GENERAL INFORMATION

1.1. Applicant

Fibocom Wireless Inc.

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.2. Manufacturer

Fibocom Wireless Inc.

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**				
	Laboratory Location (Suzhou - Wuzhong)				
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China				
	Laboratory Location (Suzhou - SIP)				
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China				
	Laboratory Accreditations				
	A2LA: 3628.01		CNAS: L10551		
	FCC: CN1166		ISED: CN0001		
	VCCI:	☐R-20025	☐G-20034	☐C-20020	☐T-20020
		☐R-20141	☐G-20134	☐C-20103	☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**				
	Laboratory Location (Shenzhen)				
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	**Test Site – MRT Taiwan Laboratory**				
	Laboratory Location (Taiwan)				
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: L3261-190725				
	FCC: 291082, TW3261		ISED: TW3261		

2. PRODUCT INFORMATION

2.1. Product Information

Product Name	LTE Module
Model No.	FM101-GL
Brand Name	Fibocom
IMEI	Conducted Measurement: 861023050011477 & 861023050010677 Radiated Measurement: 861023050010610 & 861023050010677
Operating Temperature	-10 ~ 55 °C
Power Type	3.135 ~ 4.4Vdc, typical 3.3Vdc
Antenna Information	Refer to Section 2.3
UMTS Specification	
Single Band	Band 2, 4, 5
Modulation	Uplink up to 16QAM, Downlink up to 64QAM
E-UTRA Specification	
Single Band	Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 38, 41, 48, 66, 71
HPUE Band	Band 41
Modulation	Uplink up to 16QAM, Downlink up to 64QAM

Note: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.

2.2. Radio Specification under Test

FDD T_X Frequency Range:	Band 2: 1850 ~ 1910 MHz; Band 4: 1710 ~ 1755 MHz Band 5: 824 ~ 849 MHz; Band 7: 2500 ~ 2570 MHz Band 12: 699 ~ 716 MHz; Band 13: 777 ~ 787 MHz Band 17: 704 ~ 716 MHz; Band 25: 1850 ~ 1915 MHz Band 26: 824 ~ 849 MHz; Band 66: 1710 ~ 1780 MHz Band 71: 663 ~ 698 MHz
FDD R_X Frequency Range:	Band 2: 1930 ~ 1990 MHz; Band 4: 2110 ~ 2155 MHz Band 5: 869 ~ 894 MHz; Band 7: 2620 ~ 2690 MHz Band 12: 729 ~ 746 MHz; Band 13: 746 ~ 756 MHz Band 17: 734 ~ 746 MHz; Band 25: 1930 ~ 1995 MHz Band 26: 869 ~ 894 MHz; Band 66: 2110 ~ 2200 MHz Band 71: 617 ~ 652 MHz
TDD T_X & R_X Frequency Range:	Band 38: 2570 ~ 2620 MHz; Band 41: 2496 ~ 2690 MHz

Note 1: For other features of this EUT, test reports will be issued separately.

Note 2: LTE band 26 transmit frequency for part 90 rule is 814 ~ 824MHz and part 22 rule is 824 ~ 849MHz. ERP over 15MHz bandwidth complies the ERP limit line of part 22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies.

2.3. Description of Available Antennas

Technology	Frequency Range (MHz)	Antenna Type	Max Peak Gain (dBi)
LTE Band 2	1850 ~ 1910	PIFA	4.00
LTE Band 4	1710 ~ 1755		3.00
LTE Band 5	824 ~ 849		3.00
LTE Band 7	2500 ~ 2570		4.00
LTE Band 12	699 ~ 716		3.00
LTE Band 13	777 ~ 787		3.00
LTE Band 14	788 ~ 798		3.00
LTE Band 17	704 ~ 716		3.00
LTE Band 25	1850 ~ 1915		4.00
LTE Band 26	814 ~ 849		3.00
LTE Band 30	2305 ~ 2315		1.00
LTE Band 38	2570 ~ 2620		4.00
LTE Band 41	2500 ~ 2690		4.00
LTE Band 48	3550 ~ 3700		1.00
LTE Band 66	1710 ~ 1780		3.00
LTE Band 71	663 ~ 698		3.00

2.4. Test Methodology

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.26:2015
- FCC CFR 47 Part 2, Part 22, Part 24, Part 27
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01: Determining ERP and EIRP

2.5. Device Capabilities

This device contains the following capabilities:
Working on LTE Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 30, 38, 41, 48, 66, 71.
LTE Band 66 (1710 ~ 1780 MHz) overlaps the entire frequency range of LTE Band 4 (1710 ~ 1755 MHz). Therefore, test data provided in this report covers Band 4 as well as Band 66.

LTE Band 25 (1850 ~ 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 ~ 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.

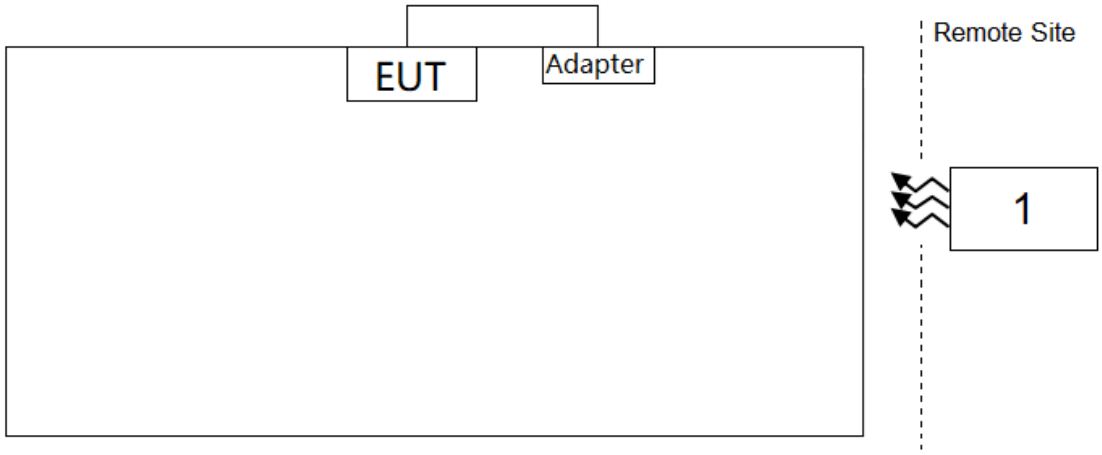
LTE Band 26 (814 ~ 849 MHz) overlaps the entire frequency range of LTE Band 5 (824 ~ 849 MHz). Therefore, test data provided in this report covers Band 5 as well as Band 26.

LTE Band 41 (2496 ~ 2690 MHz) overlaps the entire frequency range of LTE Band 38 (2570 ~ 2620 MHz). Therefore, test data provided in this report covers Band 38 as well as Band 41.

2.6. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.7. Configuration of Tested System



Product		Manufacturer	Model No.
1	Wideband Radio Communication Tester	R&S	CMW 500

2.8. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20% ~ 75%RH

3. TEST EQUIPMENT CALIBRATION DATE

Instrument Name	Manufacturer	Model No.	Asset No.	Cali. Interval	Cal. Due Date	Test Site
Communication Tester	R&S	CMU 200	MRTSUE06009	1 year	2022/9/7	SIP-SR1
Communication Tester	R&S	CMW500	MRTSUE06243	1 year	2022/10/10	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06453	1 year	2022/6/24	SIP-SR1
Thermohygrometer	testo	622	MRTSUE06629	1 year	2021/11/25	SIP-SR1
Thermohygrometer	testo	622	MRTSUE06629	1 year	2022/11/2	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06904	1 year	2021/12/8	SIP-SR1
Signal Generator	Keysight	E8257D	MRTSUE06904	1 year	2022/11/23	SIP-SR1
DC POWER MODULE	Keysight	N6743B	MRTSUE06905	/	/	SIP-SR1
DC POWER MODULE	Keysight	N6743B	MRTSUE06906	/	/	SIP-SR1
Low-Profile Modular Power System Mainframe	Keysight	N6700C	MRTSUE06907	/	/	SIP-SR1
Signal Analyzer	Keysight	N9021B	MRTSUE06915	1 year	2022/1/18	SIP-SR1
Temperature Chamber	BAOYT	BYG-80CL	MRTSUE06932	1 year	2022/3/16	SIP-SR1
Shielding Room	MIX-BEP	SIP-SR1	MRTSUE06948	/	/	SIP-SR1
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022/1/12	SIP-AC2
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/6/24	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06599	1 year	2022/10/20	SIP-AC2
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2022/10/11	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06623	1 year	2021/12/3	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06623	1 year	2022/11/28	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06624	1 year	2021/12/3	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06624	1 year	2022/11/28	SIP-AC2
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/9	SIP-AC2
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2022/11/8	SIP-AC2
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06647	1 year	2022/8/5	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06648	1 year	2021/11/26	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06648	1 year	2022/11/9	SIP-AC2
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2021/12/24	SIP-AC2

Software	Version	Function
EMI Software	V3	EMI Test Software

4. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Radiated Spurious Emissions
Measurement Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): Horizontal: 9kHz ~ 300MHz: 5.04dB 300MHz ~ 1GHz: 4.95dB 1GHz ~ 40GHz: 6.40dB Vertical: 9kHz ~ 300MHz: 5.24dB 300MHz ~ 1GHz: 6.03dB 1GHz ~ 40GHz: 6.40dB
Conducted Spurious Emissions
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.78dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.13dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%
Frequency Stability
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 76.2Hz

5. TEST RESULT

5.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1049	Occupied Bandwidth	N/A	Conducted	Pass	Section 5.2
2.1055, 22.355 24.235, 27.54	Frequency Stability	< 2.5 ppm		Pass	Section 5.3
22.913(a)(5)	Equivalent Radiated Power (Band 5/26)	< 7 Watts Max ERP		Pass	Section 5.4
27.50(b)(9) 27.50(c)(9)	Equivalent Radiated Power (Band 12, 13, 17)	< 30 Watts Max ERP			
27.50(c)(10)	Equivalent Radiated Power (Band 71)	< 3 Watts Max ERP			
24.232(c) 27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2/25, 7, 38/41)	< 2 Watts Max EIRP			
27.50(d)(4) 27.50(j)(3)	Equivalent Isotropic Radiated Power (Band 4/66)	< 1 Watts Max EIRP			
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (I)(2), (m)	Band Edge	Refer to section 5.5		Pass	Section 5.5
24.232(d), 27.50(d)(5)	Peak to Average Ratio	< 13dB		Pass	Section 5.6
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (I)(2), (m)	Spurious Emission	Refer to section 5.7		Pass	Section 5.7
2.1051, 22.917(a) 24.238(a), 27.53(c), (g), (h), (I)(2), (m)	Spurious Emission	Refer to section 5.8	Radiated	Pass	Section 5.8

Notes:

1) The analyzer plots shown in this report were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
2) All supported modulation types were evaluated. The worst-case emission of modulation was selected. Therefore, the Frequency Stability, Channel Band Edge, Conducted Spurious Emission, Radiated Spurious Emission were presented the worst-case in the test report.

5.2. Occupied Bandwidth Measurement

5.2.1.Test Limit

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

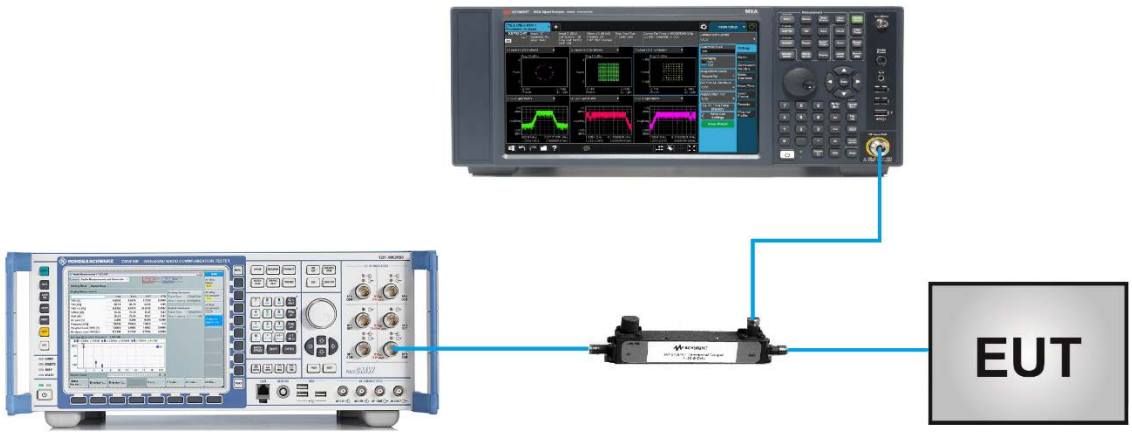
5.2.2.Test Procedure

ANSI C63.26-2015 - Section 5.4

5.2.3.Test Setting

1. Set center frequency to the nominal EUT channel center frequency
2. RBW = The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW
3. VBW ≥ 3 × RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize
8. Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

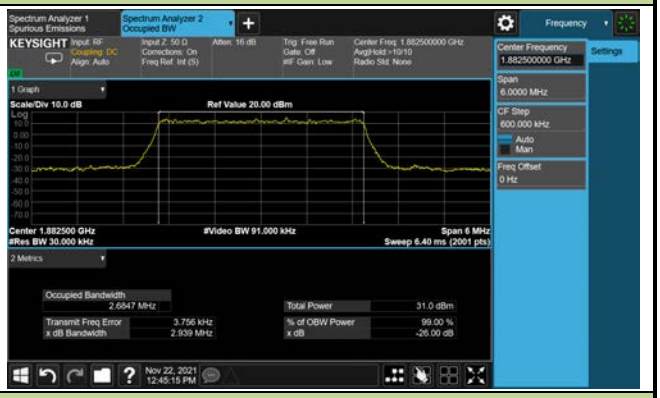
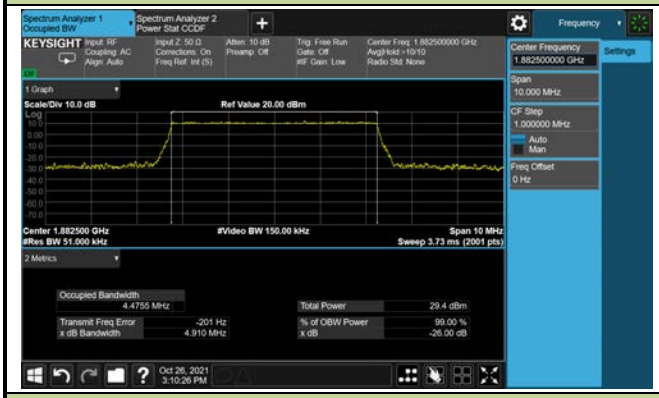
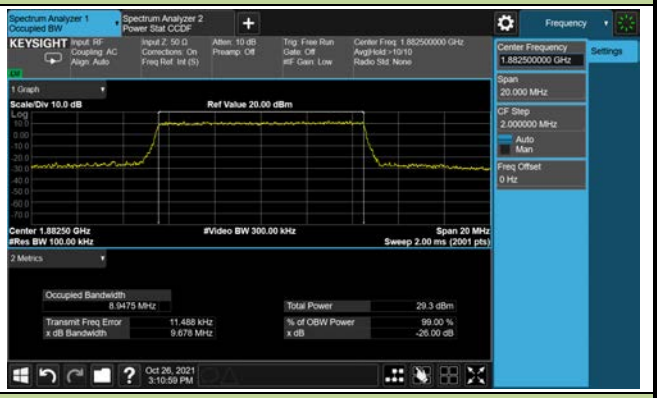
5.2.4.Test Setup

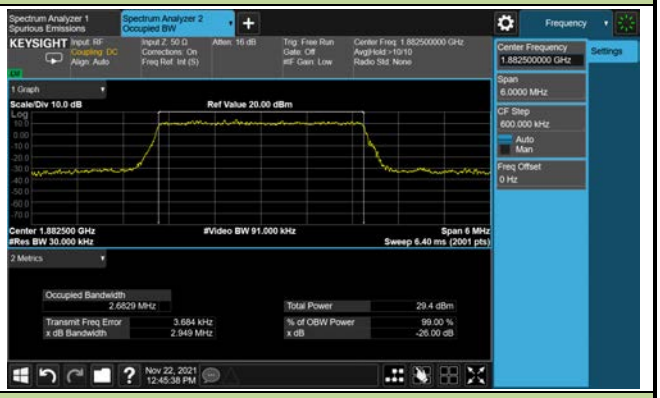
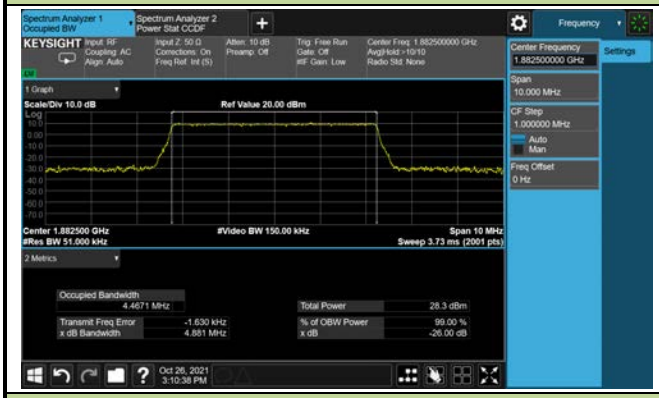


5.2.5.Test Result

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/26 ~ 2021/11/22
Test Band	Band 2/25		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.48
		10	8.95
		15	13.41
		20	17.90
16QAM			
26365	1882.5	1.4	1.08
		3	2.68
		5	4.47
		10	8.94
		15	13.40
		20	17.89

99% Bandwidth - QPSK	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

99% Bandwidth - 16QAM	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/22
Test Band	Band 4/66		

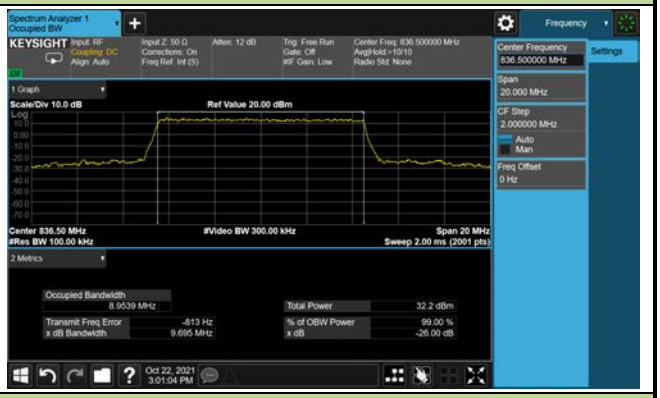
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.48
		10	8.95
		15	13.41
		20	17.87
16QAM			
20300	1745.0	1.4	1.08
		3	2.68
		5	4.47
		10	8.95
		15	13.41
		20	17.87

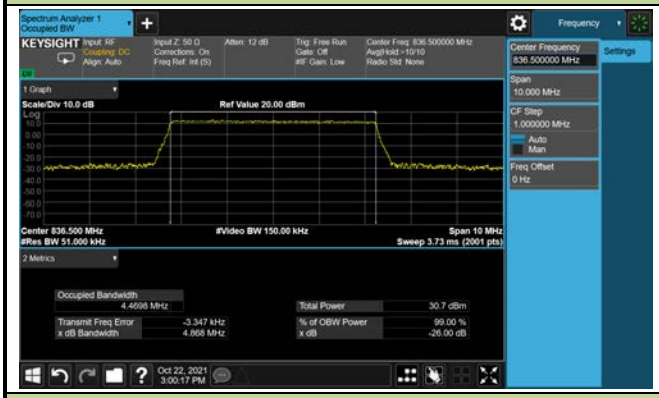
99% Bandwidth - QPSK	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

99% Bandwidth - 16QAM	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/22
Test Band	LTE Band 5/26		

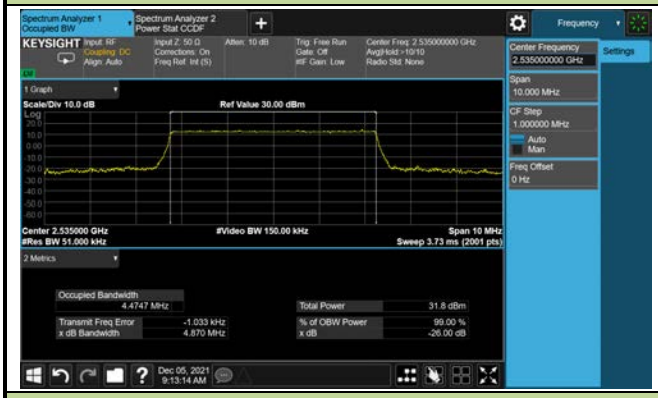
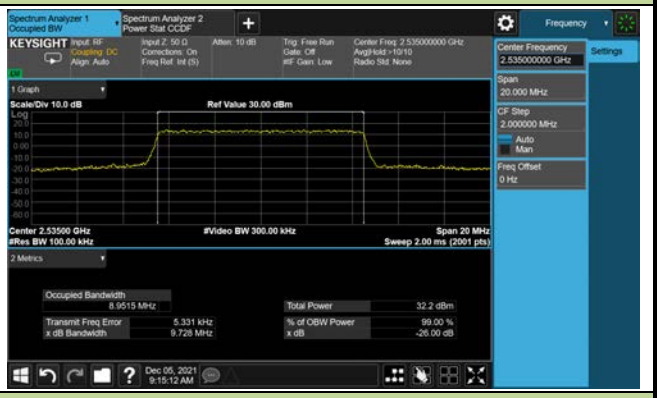
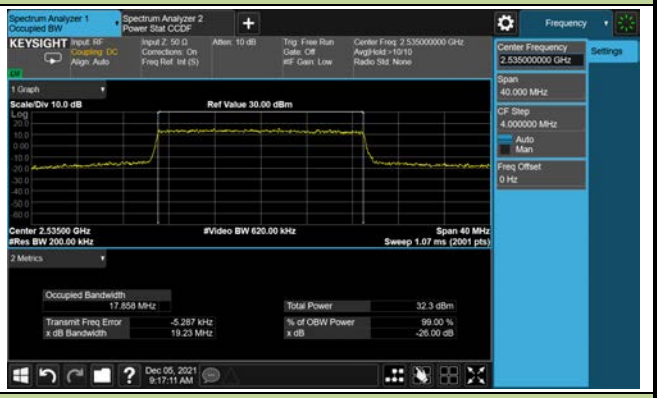
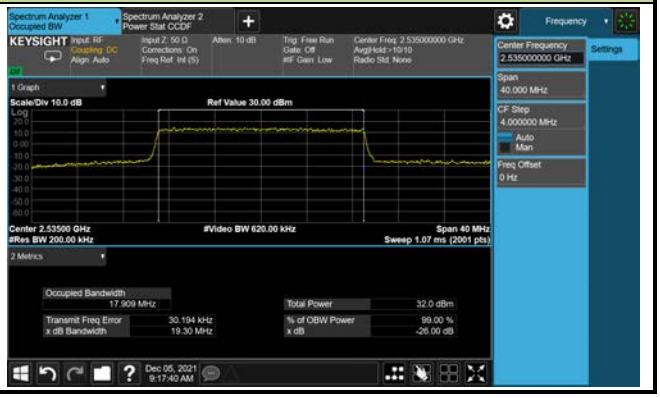
Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
20525	836.5	1.4	1.08
		3	2.69
		5	4.49
		10	8.95
		15	13.43
27185	821.5	15	13.41
16QAM			
20525	836.5	1.4	1.08
		3	2.68
		5	4.47
		10	8.94
		15	13.41
27185	821.5	15	13.41

99% Bandwidth - QPSK	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	821.5MHz
	

99% Bandwidth -16QAM	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	821.5MHz
	

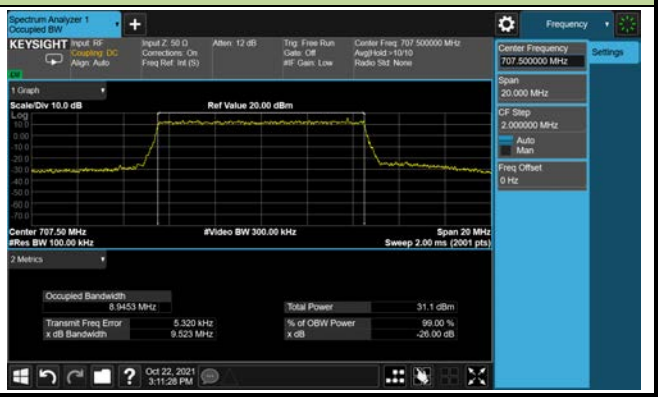
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/12/05
Test Band	LTE Band 7		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
21100	2535.0	5	4.47
		10	8.95
		15	13.42
		20	17.86
16QAM			
21100	2535.0	5	4.49
		10	8.95
		15	13.42
		20	17.91

99% Bandwidth - QPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	
99% Bandwidth - 16QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/22
Test Band	LTE Band 12		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
23095	707.5	1.4	1.08
		3	2.68
		5	4.48
		10	8.95
16QAM			
23095	707.5	1.4	1.08
		3	2.68
		5	4.47
		10	8.95

99% Bandwidth - QPSK	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
99% Bandwidth - 16QAM	
1.4MHz Channel Bandwidth	3MHz Channel Bandwidth
	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/22
Test Band	LTE Band 13		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
23230	782.0	5	4.47
		10	8.93
16QAM			
23230	782.0	5	4.46
		10	8.91

99% Bandwidth - QPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
99% Bandwidth - 16QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	

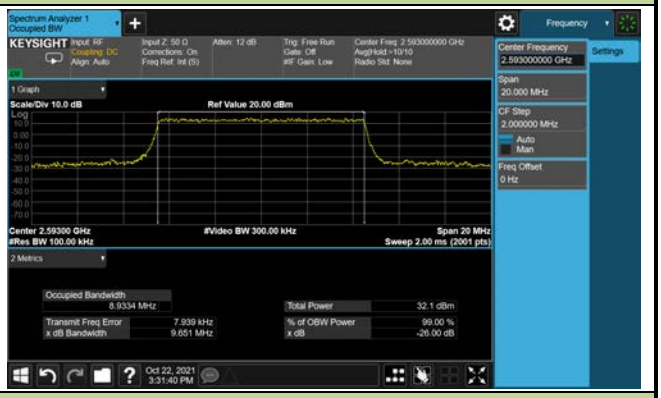
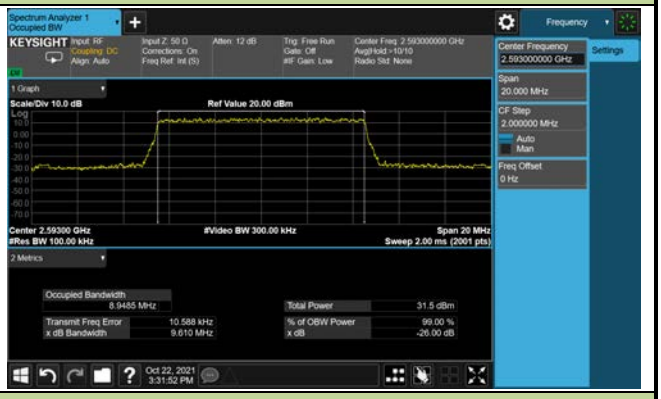
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/29
Test Band	LTE Band 17		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
23790	710.0	5	4.48
		10	8.95
16QAM			
23790	710.0	5	4.47
		10	8.93

99% Bandwidth - QPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
99% Bandwidth - 16QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	

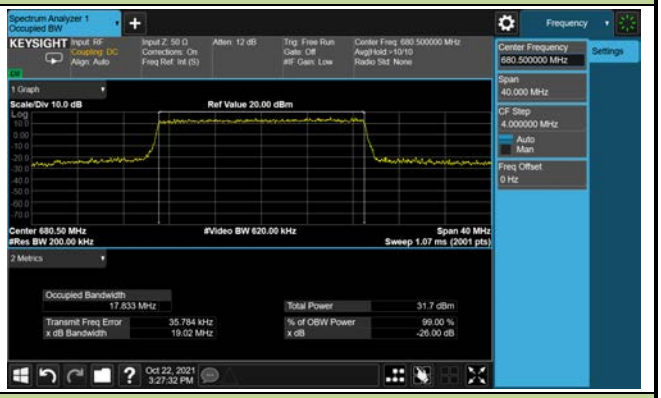
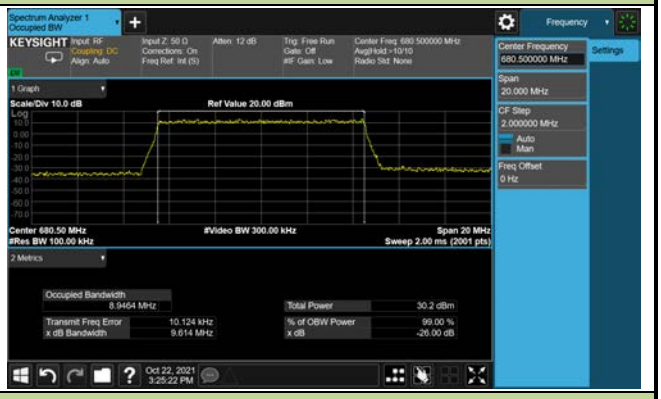
Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/22
Test Band	LTE Band 38/41		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
37980	2593.0	5	4.46
		10	8.93
		15	13.38
		20	17.86
16QAM			
37980	2593.0	5	4.46
		10	8.95
		15	13.41
		20	17.85

99% Bandwidth - QPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	
99% Bandwidth - 16QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/22
Test Band	LTE Band 71		

Channel	Frequency (MHz)	Bandwidth (MHz)	99% Bandwidth (MHz)
QPSK			
133297	680.5	5	4.48
		10	8.96
		15	13.42
		20	17.83
16QAM			
133297	680.5	5	4.48
		10	8.95
		15	13.41
		20	17.86

99% Bandwidth - QPSK	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	
99% Bandwidth - 16QAM	
5MHz Channel Bandwidth	10MHz Channel Bandwidth
	
15MHz Channel Bandwidth	20MHz Channel Bandwidth
	

5.3. Frequency Stability Measurement

5.3.1.Test Limit

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

5.3.2.Test Procedure

ANSI C63.26-2015 - Section 5.6

5.3.3.Test Setting

Frequency Stability Under Temperature Variations:

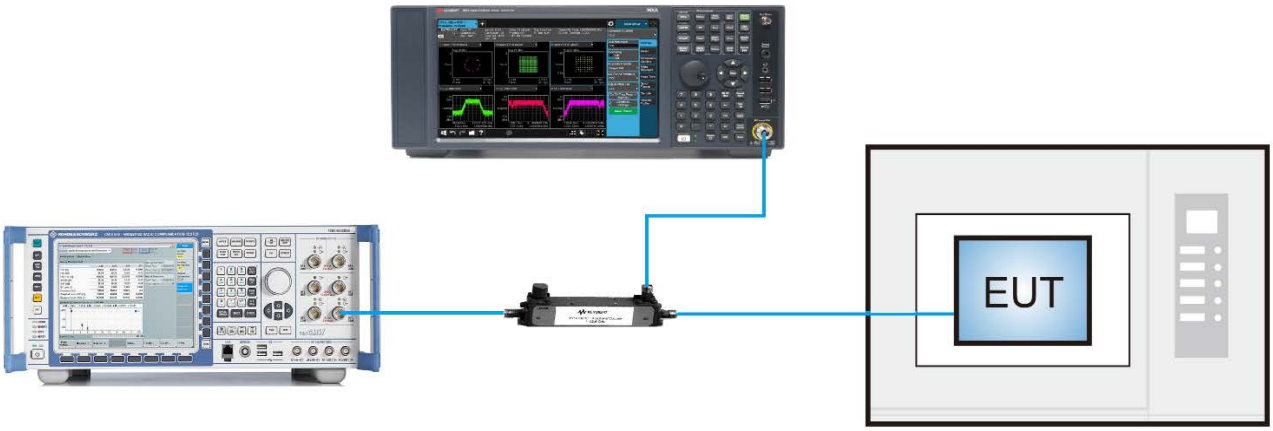
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, recordthe maximum frequency change.

5.3.4.Test Setup



5.3.5.Test Result

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 2/25		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	-0.0103
	- 20	-0.0097
	- 10	-0.0095
	0	-0.0089
	+ 10	-0.0083
	+ 20	-0.0089
	+ 30	-0.0105
	+ 40	-0.0092
	+ 50	-0.0098
4.4	+ 20	-0.0079
3.135	+ 20	-0.0090

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 4/66		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	0.0082
	- 20	0.0092
	- 10	0.0066
	0	0.0034
	+ 10	-0.0067
	+ 20	0.0059
	+ 30	-0.0065
	+ 40	0.0072
	+ 50	0.0063
4.4	+ 20	-0.0070
3.135	+ 20	-0.0054

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 5/26		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	-0.0114
	- 20	-0.0100
	- 10	-0.0111
	0	-0.0108
	+ 10	-0.0097
	+ 20	-0.0118
	+ 30	-0.0093
	+ 40	-0.0117
	+ 50	-0.0055
4.4	+ 20	-0.0090
3.135	+ 20	-0.0094

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/12/05
Test Band	LTE Band 7		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	0.0058
	- 20	0.0054
	- 10	0.0050
	0	-0.0046
	+ 10	-0.0034
	+ 20	0.0045
	+ 30	0.0053
	+ 40	-0.0042
	+ 50	0.0052
4.4	+ 20	-0.0043
3.135	+ 20	0.0059

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 12		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	0.0168
	- 20	-0.0131
	- 10	0.0185
	0	0.0071
	+ 10	-0.0111
	+ 20	0.0122
	+ 30	-0.0124
	+ 40	-0.0144
	+ 50	-0.0135
4.4	+ 20	-0.0124
3.135	+ 20	0.0110

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 13		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	-0.0087
	- 20	-0.0101
	- 10	-0.0090
	0	-0.0067
	+ 10	-0.0115
	+ 20	-0.0119
	+ 30	-0.0110
	+ 40	-0.0118
	+ 50	-0.0073
4.4	+ 20	-0.0097
3.135	+ 20	-0.0107

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 17		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	0.0031
	- 20	0.0046
	- 10	0.0027
	0	-0.0012
	+ 10	0.0094
	+ 20	0.0071
	+ 30	0.0069
	+ 40	0.0044
	+ 50	0.0103
4.4	+ 20	0.0103
3.135	+ 20	0.0124

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 38/41_HPUE		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	0.0086
	- 20	0.0073
	- 10	0.0086
	0	0.0082
	+ 10	0.0050
	+ 20	0.0072
	+ 30	0.0076
	+ 40	0.0070
	+ 50	0.0044
4.4	+ 20	0.0020
3.135	+ 20	0.0048

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/11
Test Band	LTE Band 71		

Power (Vdc)	Temp (°C)	Frequency Tolerance (ppm)
3.3	- 30	0.0098
	- 20	-0.0055
	- 10	0.0091
	0	0.0051
	+ 10	0.0080
	+ 20	0.0070
	+ 30	-0.0085
	+ 40	-0.0093
	+ 50	0.0082
4.4	+ 20	-0.0062
3.135	+ 20	-0.0061

5.4. Equivalent Isotropically Radiated Power Measurement

5.4.1.Test Limit

Band 5/26:

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

Band 12, 13, 17

Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 30 watts ERP.

Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

Band 71

Fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

Band 2/25, 7, 38/41:

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

Band 4/66:

Fixed, mobile stations operating in the 1710-1755 MHz band and mobile in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

5.4.2.Test Procedure

ANSI C63.26-2015 - Section 5.2

5.4.3.Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation (1) as follows:

ERP or EIRP = $P_{Meas} + G_T$

where

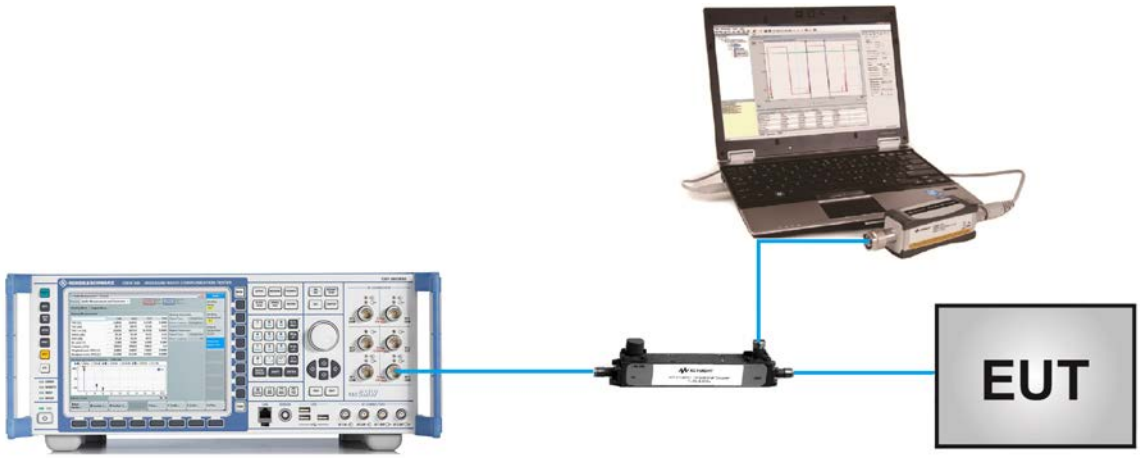
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

ERP = EIRP -2.15

5.4.4.Test Setup



5.4.5.Test Result

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 2/25		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
26047	1850.70	1.4	1	0	22.27	26.27	< 33.01
26365	1882.50				21.82	25.82	< 33.01
26683	1914.30				22.00	26.00	< 33.01
26047	1850.70	1.4	1	2	22.35	26.35	< 33.01
26365	1882.50				22.30	26.30	< 33.01
26683	1914.30				22.12	26.12	< 33.01
26047	1850.70	1.4	1	6	22.31	26.31	< 33.01
26365	1882.50				22.25	26.25	< 33.01
26683	1914.30				22.15	26.15	< 33.01
26047	1850.70	1.4	6	0	21.32	25.32	< 33.01
26365	1882.50				21.02	25.02	< 33.01
26683	1914.30				21.20	25.20	< 33.01
26055	1851.50	3	1	0	22.54	26.54	< 33.01
26365	1882.50				22.09	26.09	< 33.01
26675	1913.50				22.28	26.28	< 33.01
26055	1851.50	3	1	7	22.36	26.36	< 33.01
26365	1882.50				22.12	26.12	< 33.01
26675	1913.50				22.22	26.22	< 33.01
26055	1851.50	3	1	14	22.54	26.54	< 33.01
26365	1882.50				22.05	26.05	< 33.01
26675	1913.50				22.20	26.20	< 33.01
26055	1851.50	3	15	0	21.46	25.46	< 33.01
26365	1882.50				21.10	25.10	< 33.01
26675	1913.50				21.30	25.30	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
26065	1852.50	5	1	0	22.47	26.47	< 33.01
26365	1882.50				22.18	26.18	< 33.01
26665	1912.50				22.15	26.15	< 33.01
26065	1852.50	5	1	12	22.58	26.58	< 33.01
26365	1882.50				22.17	26.17	< 33.01
26665	1912.50				22.35	26.35	< 33.01
26065	1852.50	5	1	24	22.36	26.36	< 33.01
26365	1882.50				22.11	26.11	< 33.01
26665	1912.50				22.32	26.32	< 33.01
26065	1852.50	5	25	0	21.45	25.45	< 33.01
26365	1882.50				21.21	25.21	< 33.01
26665	1912.50				21.19	25.19	< 33.01
16390	1855.00	10	1	0	22.52	26.52	< 33.01
26365	1882.50				22.13	26.13	< 33.01
26640	1910.00				22.13	26.13	< 33.01
16390	1855.00	10	1	24	22.38	26.38	< 33.01
26365	1882.50				22.10	26.10	< 33.01
26640	1910.00				22.23	26.23	< 33.01
16390	1855.00	10	1	49	22.51	26.51	< 33.01
26365	1882.50				22.38	26.38	< 33.01
26640	1910.00				22.26	26.26	< 33.01
16390	1855.00	10	50	0	21.40	25.40	< 33.01
26365	1882.50				21.15	25.15	< 33.01
26640	1910.00				21.16	25.16	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
26115	1857.50	15	1	0	22.37	26.37	< 33.01
26365	1882.50				22.03	26.03	< 33.01
26615	1907.50				22.06	26.06	< 33.01
26115	1857.50	15	1	37	22.36	26.36	< 33.01
26365	1882.50				22.10	26.10	< 33.01
26615	1907.50				22.27	26.27	< 33.01
26115	1857.50	15	1	74	22.33	26.33	< 33.01
26365	1882.50				22.06	26.06	< 33.01
26615	1907.50				22.32	26.32	< 33.01
26115	1857.50	15	75	0	21.42	25.42	< 33.01
26365	1882.50				21.13	25.13	< 33.01
26615	1907.50				21.20	25.20	< 33.01
26140	1860.00	20	1	0	22.49	26.49	< 33.01
26365	1882.50				22.10	26.10	< 33.01
26590	1905.00				22.07	26.07	< 33.01
26140	1860.00	20	1	49	22.38	26.38	< 33.01
26365	1882.50				22.02	26.02	< 33.01
26590	1905.00				22.13	26.13	< 33.01
26140	1860.00	20	1	99	22.33	26.33	< 33.01
26365	1882.50				22.04	26.04	< 33.01
26590	1905.00				22.21	26.21	< 33.01
26140	1860.00	20	100	0	21.25	25.25	< 33.01
26365	1882.50				21.15	25.15	< 33.01
26590	1905.00				21.21	25.21	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
26047	1850.70	1.4	1	0	21.34	25.34	< 33.01
26365	1882.50				21.08	25.08	< 33.01
26683	1914.30				21.03	25.03	< 33.01
26047	1850.70	1.4	1	2	21.42	25.42	< 33.01
26365	1882.50				21.58	25.58	< 33.01
26683	1914.30				21.54	25.54	< 33.01
26047	1850.70	1.4	1	6	21.20	25.20	< 33.01
26365	1882.50				21.33	25.33	< 33.01
26683	1914.30				20.97	24.97	< 33.01
26047	1850.70	1.4	6	0	20.41	24.41	< 33.01
26365	1882.50				20.01	24.01	< 33.01
26683	1914.30				20.22	24.22	< 33.01
26055	1851.50	3	1	0	21.57	25.57	< 33.01
26365	1882.50				20.90	24.90	< 33.01
26675	1913.50				21.93	25.93	< 33.01
26055	1851.50	3	1	7	21.59	25.59	< 33.01
26365	1882.50				20.88	24.88	< 33.01
26675	1913.50				21.73	25.73	< 33.01
26055	1851.50	3	1	14	21.47	25.47	< 33.01
26365	1882.50				21.06	25.06	< 33.01
26675	1913.50				21.67	25.67	< 33.01
26055	1851.50	3	15	0	20.38	24.38	< 33.01
26365	1882.50				20.24	24.24	< 33.01
26675	1913.50				20.31	24.31	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
26065	1852.50	5	1	0	21.24	25.24	< 33.01
26365	1882.50				21.53	25.53	< 33.01
26665	1912.50				21.58	25.58	< 33.01
26065	1852.50	5	1	12	21.20	25.20	< 33.01
26365	1882.50				21.61	25.61	< 33.01
26665	1912.50				21.42	25.42	< 33.01
26065	1852.50	5	1	24	21.49	25.49	< 33.01
26365	1882.50				20.79	24.79	< 33.01
26665	1912.50				21.42	25.42	< 33.01
26065	1852.50	5	25	0	20.38	24.38	< 33.01
26365	1882.50				20.20	24.20	< 33.01
26665	1912.50				20.32	24.32	< 33.01
16390	1855.00	10	1	0	21.92	25.92	< 33.01
26365	1882.50				21.31	25.31	< 33.01
26640	1910.00				21.18	25.18	< 33.01
16390	1855.00	10	1	24	22.10	26.10	< 33.01
26365	1882.50				21.29	25.29	< 33.01
26640	1910.00				21.75	25.75	< 33.01
16390	1855.00	10	1	49	22.11	26.11	< 33.01
26365	1882.50				21.38	25.38	< 33.01
26640	1910.00				21.00	25.00	< 33.01
16390	1855.00	10	50	0	20.45	24.45	< 33.01
26365	1882.50				20.12	24.12	< 33.01
26640	1910.00				20.32	24.32	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
26115	1857.50	15	1	0	21.77	25.77	< 33.01
26365	1882.50				21.24	25.24	< 33.01
26615	1907.50				21.22	25.22	< 33.01
26115	1857.50	15	1	37	21.84	25.84	< 33.01
26365	1882.50				21.21	25.21	< 33.01
26615	1907.50				21.54	25.54	< 33.01
26115	1857.50	15	1	74	21.79	25.79	< 33.01
26365	1882.50				21.23	25.23	< 33.01
26615	1907.50				21.64	25.64	< 33.01
26115	1857.50	15	75	0	20.39	24.39	< 33.01
26365	1882.50				20.19	24.19	< 33.01
26615	1907.50				20.25	24.25	< 33.01
26140	1860.00	20	1	0	21.84	25.84	< 33.01
26365	1882.50				21.32	25.32	< 33.01
26590	1905.00				21.57	25.57	< 33.01
26140	1860.00	20	1	49	21.81	25.81	< 33.01
26365	1882.50				21.27	25.27	< 33.01
26590	1905.00				21.63	25.63	< 33.01
26140	1860.00	20	1	99	21.56	25.56	< 33.01
26365	1882.50				21.23	25.23	< 33.01
26590	1905.00				21.79	25.79	< 33.01
26140	1860.00	20	100	0	20.30	24.30	< 33.01
26365	1882.50				20.12	24.12	< 33.01
26590	1905.00				20.22	24.22	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 4/66		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
131979	1710.70	1.4	1	0	22.02	25.02	< 30.00
132322	1745.00				22.50	25.50	< 30.00
132665	1779.30				22.09	25.09	< 30.00
131979	1710.70	1.4	1	2	22.09	25.09	< 30.00
132322	1745.00				22.53	25.53	< 30.00
132665	1779.30				22.17	25.17	< 30.00
131979	1710.70	1.4	1	6	22.06	25.06	< 30.00
132322	1745.00				22.43	25.43	< 30.00
132665	1779.30				22.10	25.10	< 30.00
131979	1710.70	1.4	6	0	21.15	24.15	< 30.00
132322	1745.00				21.54	24.54	< 30.00
132665	1779.30				21.13	24.13	< 30.00
131987	1711.50	3	1	0	22.10	25.10	< 30.00
132322	1745.00				22.38	25.38	< 30.00
132657	1778.50				22.05	25.05	< 30.00
131987	1711.50	3	1	7	22.24	25.24	< 30.00
132322	1745.00				22.47	25.47	< 30.00
132657	1778.50				22.20	25.20	< 30.00
131987	1711.50	3	1	14	22.11	25.11	< 30.00
132322	1745.00				22.41	25.41	< 30.00
132657	1778.50				22.04	25.04	< 30.00
131987	1711.50	3	15	0	21.14	24.14	< 30.00
132322	1745.00				21.55	24.55	< 30.00
132657	1778.50				21.14	24.14	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
131997	1712.50	5	1	0	22.11	25.11	< 30.00
132322	1745.00				22.43	25.43	< 30.00
132647	1777.50				22.13	25.13	< 30.00
131997	1712.50	5	1	12	22.40	25.40	< 30.00
132322	1745.00				22.60	25.60	< 30.00
132647	1777.50				22.35	25.35	< 30.00
131997	1712.50	5	1	24	22.05	25.05	< 30.00
132322	1745.00				22.40	25.40	< 30.00
132647	1777.50				21.97	24.97	< 30.00
131997	1712.50	5	25	0	21.13	24.13	< 30.00
132322	1745.00				21.47	24.47	< 30.00
132647	1777.50				21.16	24.16	< 30.00
132022	1715.00	10	1	0	22.06	25.06	< 30.00
132322	1745.00				22.45	25.45	< 30.00
132622	1775.00				22.10	25.10	< 30.00
132022	1715.00	10	1	24	22.43	25.43	< 30.00
132322	1745.00				22.63	25.63	< 30.00
132622	1775.00				22.29	25.29	< 30.00
132022	1715.00	10	1	49	22.18	25.18	< 30.00
132322	1745.00				22.43	25.43	< 30.00
132622	1775.00				22.03	25.03	< 30.00
132022	1715.00	10	50	0	21.18	24.18	< 30.00
132322	1745.00				21.50	24.50	< 30.00
132622	1775.00				21.20	24.20	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
132047	1717.50	15	1	0	22.20	25.20	< 30.00
132322	1745.00				22.46	25.46	< 30.00
132597	1772.50				22.28	25.28	< 30.00
132047	1717.50	15	1	37	22.30	25.30	< 30.00
132322	1745.00				22.62	25.62	< 30.00
132597	1772.50				22.29	25.29	< 30.00
132047	1717.50	15	1	74	22.30	25.30	< 30.00
132322	1745.00				22.51	25.51	< 30.00
132597	1772.50				22.12	25.12	< 30.00
132047	1717.50	15	75	0	21.22	24.22	< 30.00
132322	1745.00				21.52	24.52	< 30.00
132597	1772.50				21.23	24.23	< 30.00
132072	1720.00	20	1	0	22.23	25.23	< 30.00
132322	1745.00				22.60	25.60	< 30.00
132572	1770.00				22.48	25.48	< 30.00
132072	1720.00	20	1	49	22.44	25.44	< 30.00
132322	1745.00				22.72	25.72	< 30.00
132572	1770.00				22.32	25.32	< 30.00
132072	1720.00	20	1	99	22.39	25.39	< 30.00
132322	1745.00				22.68	25.68	< 30.00
132572	1770.00				22.12	25.12	< 30.00
132072	1720.00	20	100	0	21.31	24.31	< 30.00
132322	1745.00				21.53	24.53	< 30.00
132572	1770.00				21.23	24.23	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
131979	1710.70	1.4	1	0	21.21	24.21	< 30.00
132322	1745.00				21.30	24.30	< 30.00
132665	1779.30				20.89	23.89	< 30.00
131979	1710.70	1.4	1	2	21.26	24.26	< 30.00
132322	1745.00				21.43	24.43	< 30.00
132665	1779.30				21.29	24.29	< 30.00
131979	1710.70	1.4	1	6	20.88	23.88	< 30.00
132322	1745.00				21.32	24.32	< 30.00
132665	1779.30				20.86	23.86	< 30.00
131979	1710.70	1.4	6	0	20.23	23.23	< 30.00
132322	1745.00				20.54	23.54	< 30.00
132665	1779.30				20.18	23.18	< 30.00
131987	1711.50	3	1	0	21.51	24.51	< 30.00
132322	1745.00				21.53	24.53	< 30.00
132657	1778.50				20.87	23.87	< 30.00
131987	1711.50	3	1	7	21.66	24.66	< 30.00
132322	1745.00				21.64	24.64	< 30.00
132657	1778.50				21.02	24.02	< 30.00
131987	1711.50	3	1	14	21.44	24.44	< 30.00
132322	1745.00				21.63	24.63	< 30.00
132657	1778.50				21.47	24.47	< 30.00
131987	1711.50	3	15	0	20.23	23.23	< 30.00
132322	1745.00				20.55	23.55	< 30.00
132657	1778.50				20.23	23.23	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
131997	1712.50	5	1	0	21.37	24.37	< 30.00
132322	1745.00				21.56	24.56	< 30.00
132647	1777.50				20.83	23.83	< 30.00
131997	1712.50	5	1	12	21.70	24.70	< 30.00
132322	1745.00				21.40	24.40	< 30.00
132647	1777.50				21.69	24.69	< 30.00
131997	1712.50	5	1	24	21.16	24.16	< 30.00
132322	1745.00				21.16	24.16	< 30.00
132647	1777.50				21.10	24.10	< 30.00
131997	1712.50	5	25	0	20.19	23.19	< 30.00
132322	1745.00				20.46	23.46	< 30.00
132647	1777.50				20.14	23.14	< 30.00
132022	1715.00	10	1	0	20.78	23.78	< 30.00
132322	1745.00				21.49	24.49	< 30.00
132622	1775.00				20.83	23.83	< 30.00
132022	1715.00	10	1	24	21.73	24.73	< 30.00
132322	1745.00				21.87	24.87	< 30.00
132622	1775.00				20.97	23.97	< 30.00
132022	1715.00	10	1	49	21.51	24.51	< 30.00
132322	1745.00				21.54	24.54	< 30.00
132622	1775.00				20.80	23.80	< 30.00
132022	1715.00	10	50	0	20.26	23.26	< 30.00
132322	1745.00				20.55	23.55	< 30.00
132622	1775.00				20.16	23.16	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
132047	1717.50	15	1	0	21.65	24.65	< 30.00
132322	1745.00				21.65	24.65	< 30.00
132597	1772.50				21.40	24.40	< 30.00
132047	1717.50	15	1	37	21.84	24.84	< 30.00
132322	1745.00				21.81	24.81	< 30.00
132597	1772.50				21.52	24.52	< 30.00
132047	1717.50	15	1	74	21.77	24.77	< 30.00
132322	1745.00				21.72	24.72	< 30.00
132597	1772.50				21.82	24.82	< 30.00
132047	1717.50	15	75	0	20.28	23.28	< 30.00
132322	1745.00				20.54	23.54	< 30.00
132597	1772.50				20.18	23.18	< 30.00
132072	1720.00	20	1	0	21.79	24.79	< 30.00
132322	1745.00				21.85	24.85	< 30.00
132572	1770.00				21.47	24.47	< 30.00
132072	1720.00	20	1	49	21.94	24.94	< 30.00
132322	1745.00				22.09	25.09	< 30.00
132572	1770.00				21.65	24.65	< 30.00
132072	1720.00	20	1	99	21.97	24.97	< 30.00
132322	1745.00				21.78	24.78	< 30.00
132572	1770.00				21.24	24.24	< 30.00
132072	1720.00	20	100	0	20.34	23.34	< 30.00
132322	1745.00				20.56	23.56	< 30.00
132572	1770.00				20.20	23.20	< 30.00
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 5/26		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
26797	824.70	1.4	1	0	23.56	24.41	< 38.45
26915	836.50				23.51	24.36	< 38.45
27033	848.30				23.40	24.25	< 38.45
26797	824.70	1.4	1	2	23.45	24.30	< 38.45
26915	836.50				23.45	24.30	< 38.45
27033	848.30				23.33	24.18	< 38.45
26797	824.70	1.4	1	6	23.51	24.36	< 38.45
26915	836.50				23.46	24.31	< 38.45
27033	848.30				23.40	24.25	< 38.45
26797	824.70	1.4	6	0	22.58	23.43	< 38.45
26915	836.50				22.54	23.39	< 38.45
27033	848.30				22.47	23.32	< 38.45
26805	825.50	3	1	0	23.61	24.46	< 38.45
26915	836.50				23.59	24.44	< 38.45
27015	846.50				23.50	24.35	< 38.45
26805	825.50	3	1	7	23.58	24.43	< 38.45
26915	836.50				23.53	24.38	< 38.45
27015	846.50				23.47	24.32	< 38.45
26805	825.50	3	1	14	23.53	24.38	< 38.45
26915	836.50				23.63	24.48	< 38.45
27015	846.50				23.31	24.16	< 38.45
26805	825.50	3	15	0	23.56	24.41	< 38.45
26915	836.50				23.62	24.47	< 38.45
27015	846.50				23.39	24.24	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
26815	826.50	5	1	0	23.70	24.55	< 38.45
26915	836.50				23.57	24.42	< 38.45
27015	846.50				23.60	24.45	< 38.45
26815	826.50	5	1	12	23.68	24.53	< 38.45
26915	836.50				23.65	24.50	< 38.45
27015	846.50				23.61	24.46	< 38.45
26815	826.50	5	1	24	23.52	24.37	< 38.45
26915	836.50				23.61	24.46	< 38.45
27015	846.50				23.36	24.21	< 38.45
26815	826.50	5	25	0	22.63	23.48	< 38.45
26915	836.50				22.64	23.49	< 38.45
27015	846.50				22.61	23.46	< 38.45
26840	829.00	10	1	0	23.63	24.48	< 38.45
26915	836.50				23.66	24.51	< 38.45
26990	844.00				23.39	24.24	< 38.45
26840	829.00	10	1	24	23.56	24.41	< 38.45
26915	836.50				23.64	24.49	< 38.45
26990	844.00				23.42	24.27	< 38.45
26840	829.00	10	1	49	23.63	24.48	< 38.45
26915	836.50				23.45	24.30	< 38.45
26990	844.00				23.40	24.25	< 38.45
26840	829.00	10	50	0	22.69	23.54	< 38.45
26915	836.50				22.70	23.55	< 38.45
26990	844.00				22.53	23.38	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
26765	821.50	15	1	0	23.60	24.45	< 38.45
26915	836.50				23.46	24.31	< 38.45
26965	841.50				23.55	24.40	< 38.45
26765	821.50	15	1	37	23.52	24.37	< 38.45
26915	836.50				23.41	24.26	< 38.45
26965	841.50				23.54	24.39	< 38.45
26765	821.50	15	1	74	23.51	24.36	< 38.45
26915	836.50				23.48	24.33	< 38.45
26965	841.50				23.08	23.93	< 38.45
26765	821.50	15	75	0	23.41	24.26	< 38.45
26915	836.50				23.54	24.39	< 38.45
26965	841.50				23.07	23.92	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
26797	824.70	1.4	1	0	22.39	23.24	< 38.45
26915	836.50				22.62	23.47	< 38.45
27033	848.30				22.18	23.03	< 38.45
26797	824.70	1.4	1	2	22.36	23.21	< 38.45
26915	836.50				22.61	23.46	< 38.45
27033	848.30				22.20	23.05	< 38.45
26797	824.70	1.4	1	6	22.34	23.19	< 38.45
26915	836.50				22.65	23.50	< 38.45
27033	848.30				22.39	23.24	< 38.45
26797	824.70	1.4	6	0	21.66	22.51	< 38.45
26915	836.50				21.61	22.46	< 38.45
27033	848.30				21.49	22.34	< 38.45
26805	825.50	3	1	0	23.05	23.90	< 38.45
26915	836.50				22.76	23.61	< 38.45
27015	846.50				22.30	23.15	< 38.45
26805	825.50	3	1	7	23.01	23.86	< 38.45
26915	836.50				22.72	23.57	< 38.45
27015	846.50				22.92	23.77	< 38.45
26805	825.50	3	1	14	22.50	23.35	< 38.45
26915	836.50				22.99	23.84	< 38.45
27015	846.50				22.59	23.44	< 38.45
26805	825.50	3	15	0	22.33	23.18	< 38.45
26915	836.50				22.99	23.84	< 38.45
27015	846.50				22.57	23.42	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
26815	826.50	5	1	0	22.93	23.78	< 38.45
26915	836.50				22.72	23.57	< 38.45
27015	846.50				22.25	23.10	< 38.45
26815	826.50	5	1	12	23.01	23.86	< 38.45
26915	836.50				22.44	23.29	< 38.45
27015	846.50				22.93	23.78	< 38.45
26815	826.50	5	1	24	22.28	23.13	< 38.45
26915	836.50				22.94	23.79	< 38.45
27015	846.50				22.56	23.41	< 38.45
26815	826.50	5	25	0	21.72	22.57	< 38.45
26915	836.50				21.61	22.46	< 38.45
27015	846.50				21.60	22.45	< 38.45
26840	829.00	10	1	0	23.09	23.94	< 38.45
26915	836.50				23.17	24.02	< 38.45
26990	844.00				22.57	23.42	< 38.45
26840	829.00	10	1	24	22.28	23.13	< 38.45
26915	836.50				23.00	23.85	< 38.45
26990	844.00				22.65	23.50	< 38.45
26840	829.00	10	1	49	22.94	23.79	< 38.45
26915	836.50				22.63	23.48	< 38.45
26990	844.00				22.40	23.25	< 38.45
26840	829.00	10	50	0	21.79	22.64	< 38.45
26915	836.50				21.61	22.46	< 38.45
26990	844.00				21.52	22.37	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
26765	821.50	15	1	0	22.97	23.82	< 38.45
26915	836.50				22.70	23.55	< 38.45
26965	841.50				22.72	23.57	< 38.45
26765	821.50	15	1	37	22.93	23.78	< 38.45
26915	836.50				22.60	23.45	< 38.45
26965	841.50				22.75	23.60	< 38.45
26765	821.50	15	1	74	22.98	23.83	< 38.45
26915	836.50				22.60	23.45	< 38.45
26965	841.50				22.56	23.41	< 38.45
26765	821.50	15	75	0	22.56	23.41	< 38.45
26915	836.50				22.73	23.58	< 38.45
26965	841.50				22.55	23.40	< 38.45
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/12/05
Test Band	LTE Band 7		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
20775	2502.50	5	1	0	23.15	27.15	< 33.01
21100	2535.00				23.10	27.10	< 33.01
21425	2567.50				23.05	27.05	< 33.01
20775	2502.50	5	1	12	23.24	27.24	< 33.01
21100	2535.00				22.89	26.89	< 33.01
21425	2567.50				22.51	26.51	< 33.01
20775	2502.50	5	1	24	23.11	27.11	< 33.01
21100	2535.00				22.79	26.79	< 33.01
21425	2567.50				22.31	26.31	< 33.01
20775	2502.50	5	25	0	22.28	26.28	< 33.01
21100	2535.00				21.76	25.76	< 33.01
21425	2567.50				21.48	25.48	< 33.01
20800	2505.00	10	1	0	23.25	27.25	< 33.01
21100	2535.00				23.09	27.09	< 33.01
21400	2565.00				23.15	27.15	< 33.01
20800	2505.00	10	1	24	23.20	27.20	< 33.01
21100	2535.00				22.95	26.95	< 33.01
21400	2565.00				23.10	27.10	< 33.01
20800	2505.00	10	1	49	23.17	27.17	< 33.01
21100	2535.00				22.45	26.45	< 33.01
21400	2565.00				22.29	26.29	< 33.01
20800	2505.00	10	50	0	22.22	26.22	< 33.01
21100	2535.00				21.80	25.80	< 33.01
21400	2565.00				22.23	26.23	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
20825	2507.50	15	1	0	23.13	27.13	< 33.01
21100	2535.00				23.10	27.10	< 33.01
21375	2562.50				23.29	27.29	< 33.01
20825	2507.50	15	1	37	23.15	27.15	< 33.01
21100	2535.00				22.94	26.94	< 33.01
21375	2562.50				23.12	27.12	< 33.01
20825	2507.50	15	1	74	23.21	27.21	< 33.01
21100	2535.00				22.74	26.74	< 33.01
21375	2562.50				22.41	26.41	< 33.01
20825	2507.50	15	75	0	22.29	26.29	< 33.01
21100	2535.00				22.22	26.22	< 33.01
21375	2562.50				22.26	26.26	< 33.01
20850	2510.00	20	1	0	23.33	27.33	< 33.01
21100	2535.00				23.23	27.23	< 33.01
21350	2560.00				23.29	27.29	< 33.01
20850	2510.00	20	1	49	23.17	27.17	< 33.01
21100	2535.00				23.08	27.08	< 33.01
21350	2560.00				23.19	27.19	< 33.01
20850	2510.00	20	1	99	23.24	27.24	< 33.01
21100	2535.00				22.90	26.90	< 33.01
21350	2560.00				22.50	26.50	< 33.01
20850	2510.00	20	100	0	23.16	27.16	< 33.01
21100	2535.00				22.88	26.88	< 33.01
21350	2560.00				22.52	26.52	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
20775	2502.50	5	1	0	21.94	25.94	< 33.01
21100	2535.00				22.25	26.25	< 33.01
21425	2567.50				22.24	26.24	< 33.01
20775	2502.50	5	1	12	22.02	26.02	< 33.01
21100	2535.00				22.44	26.44	< 33.01
21425	2567.50				21.65	25.65	< 33.01
20775	2502.50	5	1	24	22.04	26.04	< 33.01
21100	2535.00				22.16	26.16	< 33.01
21425	2567.50				21.47	25.47	< 33.01
20775	2502.50	5	25	0	21.34	25.34	< 33.01
21100	2535.00				20.75	24.75	< 33.01
21425	2567.50				20.71	24.71	< 33.01
20800	2505.00	10	1	0	22.70	26.70	< 33.01
21100	2535.00				22.28	26.28	< 33.01
21400	2565.00				21.92	25.92	< 33.01
20800	2505.00	10	1	24	22.65	26.65	< 33.01
21100	2535.00				22.11	26.11	< 33.01
21400	2565.00				22.02	26.02	< 33.01
20800	2505.00	10	1	49	22.61	26.61	< 33.01
21100	2535.00				21.77	25.77	< 33.01
21400	2565.00				21.12	25.12	< 33.01
20800	2505.00	10	50	0	21.24	25.24	< 33.01
21100	2535.00				20.86	24.86	< 33.01
21400	2565.00				21.27	25.27	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
20825	2507.50	15	1	0	22.37	26.37	< 33.01
21100	2535.00				22.27	26.27	< 33.01
21375	2562.50				22.69	26.69	< 33.01
20825	2507.50	15	1	37	22.38	26.38	< 33.01
21100	2535.00				22.27	26.27	< 33.01
21375	2562.50				22.63	26.63	< 33.01
20825	2507.50	15	1	74	22.41	26.41	< 33.01
21100	2535.00				21.95	25.95	< 33.01
21375	2562.50				21.93	25.93	< 33.01
20825	2507.50	15	75	0	21.31	25.31	< 33.01
21100	2535.00				21.30	25.30	< 33.01
21375	2562.50				21.35	25.35	< 33.01
20850	2510.00	20	1	0	22.46	26.46	< 33.01
21100	2535.00				22.47	26.47	< 33.01
21350	2560.00				22.82	26.82	< 33.01
20850	2510.00	20	1	49	22.66	26.66	< 33.01
21100	2535.00				22.73	26.73	< 33.01
21350	2560.00				22.45	26.45	< 33.01
20850	2510.00	20	1	99	22.42	26.42	< 33.01
21100	2535.00				22.44	26.44	< 33.01
21350	2560.00				21.89	25.89	< 33.01
20850	2510.00	20	100	0	22.40	26.40	< 33.01
21100	2535.00				22.42	26.42	< 33.01
21350	2560.00				21.93	25.93	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 12		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
23017	699.7	1.4	1	0	23.62	24.47	< 44.77
23095	707.5				23.63	24.48	< 44.77
23173	715.3				23.46	24.31	< 44.77
23017	699.7	1.4	1	2	23.70	24.55	< 44.77
23095	707.5				23.71	24.56	< 44.77
23173	715.3				23.54	24.39	< 44.77
23017	699.7	1.4	1	6	23.61	24.46	< 44.77
23095	707.5				23.65	24.50	< 44.77
23173	715.3				23.49	24.34	< 44.77
23017	699.7	1.4	6	0	22.70	23.55	< 44.77
23095	707.5				22.75	23.60	< 44.77
23173	715.3				22.55	23.40	< 44.77
23025	700.5	3	1	0	23.66	24.51	< 44.77
23095	707.5				23.76	24.61	< 44.77
23165	714.5				23.56	24.41	< 44.77
23025	700.5	3	1	7	23.67	24.52	< 44.77
23095	707.5				23.63	24.48	< 44.77
23165	714.5				23.57	24.42	< 44.77
23025	700.5	3	1	14	23.60	24.45	< 44.77
23095	707.5				23.73	24.58	< 44.77
23165	714.5				23.54	24.39	< 44.77
23025	700.5	3	15	0	22.73	23.58	< 44.77
23095	707.5				22.76	23.61	< 44.77
23165	714.5				22.64	23.49	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
23035	701.5	5	1	0	23.84	24.69	< 44.77
23095	707.5				23.79	24.64	< 44.77
23155	713.5				23.58	24.43	< 44.77
23035	701.5	5	1	12	23.82	24.67	< 44.77
23095	707.5				23.85	24.70	< 44.77
23155	713.5				23.65	24.50	< 44.77
23035	701.5	5	1	24	23.86	24.71	< 44.77
23095	707.5				23.70	24.55	< 44.77
23155	713.5				23.54	24.39	< 44.77
23035	701.5	5	25	0	22.80	23.65	< 44.77
23095	707.5				22.82	23.67	< 44.77
23155	713.5				22.64	23.49	< 44.77
23060	704.0	10	1	0	23.73	24.58	< 44.77
23095	707.5				23.73	24.58	< 44.77
23130	711.0				23.78	24.63	< 44.77
23060	704.0	10	1	24	23.78	24.63	< 44.77
23095	707.5				23.74	24.59	< 44.77
23130	711.0				23.71	24.56	< 44.77
23060	704.0	10	1	49	23.65	24.50	< 44.77
23095	707.5				23.73	24.58	< 44.77
23130	711.0				23.61	24.46	< 44.77
23060	704.0	10	50	0	22.81	23.66	< 44.77
23095	707.5				22.81	23.66	< 44.77
23130	711.0				22.77	23.62	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
23017	699.7	1.4	1	0	22.41	23.26	< 44.77
23095	707.5				22.70	23.55	< 44.77
23173	715.3				22.33	23.18	< 44.77
23017	699.7	1.4	1	2	22.79	23.64	< 44.77
23095	707.5				22.48	23.33	< 44.77
23173	715.3				22.40	23.25	< 44.77
23017	699.7	1.4	1	6	22.75	23.60	< 44.77
23095	707.5				22.49	23.34	< 44.77
23173	715.3				22.37	23.22	< 44.77
23017	699.7	1.4	6	0	21.66	22.51	< 44.77
23095	707.5				21.79	22.64	< 44.77
23173	715.3				21.56	22.41	< 44.77
23025	700.5	3	1	0	22.82	23.67	< 44.77
23095	707.5				22.61	23.46	< 44.77
23165	714.5				23.04	23.89	< 44.77
23025	700.5	3	1	7	22.80	23.65	< 44.77
23095	707.5				22.48	23.33	< 44.77
23165	714.5				22.93	23.78	< 44.77
23025	700.5	3	1	14	22.73	23.58	< 44.77
23095	707.5				22.46	23.31	< 44.77
23165	714.5				22.94	23.79	< 44.77
23025	700.5	3	15	0	21.78	22.63	< 44.77
23095	707.5				21.79	22.64	< 44.77
23165	714.5				21.59	22.44	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
23035	701.5	5	1	0	23.12	23.97	< 44.77
23095	707.5				22.87	23.72	< 44.77
23155	713.5				22.34	23.19	< 44.77
23035	701.5	5	1	12	23.20	24.05	< 44.77
23095	707.5				22.90	23.75	< 44.77
23155	713.5				22.40	23.25	< 44.77
23035	701.5	5	1	24	23.19	24.04	< 44.77
23095	707.5				22.80	23.65	< 44.77
23155	713.5				22.39	23.24	< 44.77
23035	701.5	5	25	0	21.89	22.74	< 44.77
23095	707.5				21.77	22.62	< 44.77
23155	713.5				21.64	22.49	< 44.77
23060	704.0	10	1	0	22.81	23.66	< 44.77
23095	707.5				22.58	23.43	< 44.77
23130	711.0				23.20	24.05	< 44.77
23060	704.0	10	1	24	22.50	23.35	< 44.77
23095	707.5				23.20	24.05	< 44.77
23130	711.0				22.82	23.67	< 44.77
23060	704.0	10	1	49	22.51	23.36	< 44.77
23095	707.5				23.16	24.01	< 44.77
23130	711.0				22.71	23.56	< 44.77
23060	704.0	10	50	0	21.90	22.75	< 44.77
23095	707.5				21.88	22.73	< 44.77
23130	711.0				21.79	22.64	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 13		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
23205	779.5	5	1	0	22.70	23.55	< 44.77
23230	782.0				23.68	24.53	< 44.77
23255	784.5				23.61	24.46	< 44.77
23205	779.5	5	1	12	23.75	24.60	< 44.77
23230	782.0				23.72	24.57	< 44.77
23255	784.5				23.72	24.57	< 44.77
23205	779.5	5	1	24	23.63	24.48	< 44.77
23230	782.0				23.67	24.52	< 44.77
23255	784.5				23.68	24.53	< 44.77
23205	779.5	5	25	0	22.71	23.56	< 44.77
23230	782.0				22.64	23.49	< 44.77
23255	784.5				22.60	23.45	< 44.77
23230	782.0	10	1	0	23.05	23.90	< 44.77
23230	782.0		1	24	23.59	24.44	< 44.77
23230	782.0		1	49	23.59	24.44	< 44.77
23230	782.0		50	0	22.66	23.51	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
23205	779.5	5	1	0	21.75	22.60	< 44.77
23230	782.0				22.92	23.77	< 44.77
23255	784.5				22.31	23.16	< 44.77
23205	779.5	5	1	12	23.01	23.86	< 44.77
23230	782.0				22.83	23.68	< 44.77
23255	784.5				22.48	23.33	< 44.77
23205	779.5	5	1	24	22.97	23.82	< 44.77
23230	782.0				22.78	23.63	< 44.77
23255	784.5				22.41	23.26	< 44.77
23205	779.5	5	25	0	21.68	22.53	< 44.77
23230	782.0				21.73	22.58	< 44.77
23255	784.5				21.69	22.54	< 44.77
23230	782.0	10	1	0	22.53	23.38	< 44.77
23230	782.0		1	24	23.01	23.86	< 44.77
23230	782.0		1	49	23.06	23.91	< 44.77
23230	782.0		50	0	21.77	22.62	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/11/05
Test Band	LTE Band 17		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
23755	706.5	5	1	0	23.84	24.69	< 44.77
23790	710.0				23.70	24.55	< 44.77
23825	713.5				23.71	24.56	< 44.77
23755	706.5	5	1	12	23.71	24.56	< 44.77
23790	710.0				23.77	24.62	< 44.77
23825	713.5				23.78	24.63	< 44.77
23755	706.5	5	1	24	23.66	24.51	< 44.77
23790	710.0				23.76	24.61	< 44.77
23825	713.5				23.64	24.49	< 44.77
23755	706.5	5	25	0	22.74	23.59	< 44.77
23790	710.0				22.72	23.57	< 44.77
23825	713.5				22.68	23.53	< 44.77
23780	709.0	10	1	0	23.73	24.58	< 44.77
23790	710.0				23.76	24.61	< 44.77
23800	711.0				23.74	24.59	< 44.77
23780	709.0	10	1	24	23.69	24.54	< 44.77
23790	710.0				23.72	24.57	< 44.77
23800	711.0				23.67	24.52	< 44.77
23780	709.0	10	1	49	23.59	24.44	< 44.77
23790	710.0				23.63	24.48	< 44.77
23800	711.0				23.58	24.43	< 44.77
23780	709.0	10	50	0	22.73	23.58	< 44.77
23790	710.0				22.74	23.59	< 44.77
23800	711.0				22.77	23.62	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
23755	706.5	5	1	0	23.08	23.93	< 44.77
23790	710.0				22.37	23.22	< 44.77
23825	713.5				22.77	23.62	< 44.77
23755	706.5	5	1	12	22.82	23.67	< 44.77
23790	710.0				22.47	23.32	< 44.77
23825	713.5				23.09	23.94	< 44.77
23755	706.5	5	1	24	22.82	23.67	< 44.77
23790	710.0				23.02	23.87	< 44.77
23825	713.5				22.69	23.54	< 44.77
23755	706.5	5	25	0	21.84	22.69	< 44.77
23790	710.0				21.60	22.45	< 44.77
23825	713.5				21.75	22.60	< 44.77
23780	709.0	10	1	0	22.84	23.69	< 44.77
23790	710.0				22.46	23.31	< 44.77
23800	711.0				23.20	24.05	< 44.77
23780	709.0	10	1	24	22.82	23.67	< 44.77
23790	710.0				22.40	23.25	< 44.77
23800	711.0				22.10	22.95	< 44.77
23780	709.0	10	1	49	22.75	23.60	< 44.77
23790	710.0				22.36	23.21	< 44.77
23800	711.0				23.03	23.88	< 44.77
23780	709.0	10	50	0	21.70	22.55	< 44.77
23790	710.0				21.70	22.55	< 44.77
23800	711.0				21.73	22.58	< 44.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 38/41		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
39675	2498.50	5	1	0	23.39	27.39	< 33.01
40620	2593.00				23.16	27.16	< 33.01
40565	2687.50				23.10	27.10	< 33.01
39675	2498.50	5	1	12	23.54	27.54	< 33.01
40620	2593.00				23.31	27.31	< 33.01
40565	2687.50				23.20	27.20	< 33.01
39675	2498.50	5	1	24	23.55	27.55	< 33.01
40620	2593.00				23.34	27.34	< 33.01
40565	2687.50				23.24	27.24	< 33.01
39675	2498.50	5	25	0	23.44	27.44	< 33.01
40620	2593.00				23.28	27.28	< 33.01
40565	2687.50				23.42	27.42	< 33.01
39700	2501.00	10	1	0	23.67	27.67	< 33.01
40620	2593.00				23.21	27.21	< 33.01
41540	2685.00				23.49	27.49	< 33.01
39700	2501.00	10	1	24	23.67	27.67	< 33.01
40620	2593.00				23.33	27.33	< 33.01
41540	2685.00				23.47	27.47	< 33.01
39700	2501.00	10	1	49	23.70	27.70	< 33.01
40620	2593.00				23.32	27.32	< 33.01
41540	2685.00				23.59	27.59	< 33.01
39700	2501.00	10	50	0	23.70	27.70	< 33.01
40620	2593.00				23.38	27.38	< 33.01
41540	2685.00				23.57	27.57	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
39725	2503.50	15	1	0	23.66	27.66	< 33.01
40620	2593.00				23.39	27.39	< 33.01
41515	2682.50				23.39	27.39	< 33.01
39725	2503.50	15	1	37	23.64	27.64	< 33.01
40620	2593.00				23.34	27.34	< 33.01
41515	2682.50				23.52	27.52	< 33.01
39725	2503.50	15	1	74	23.74	27.74	< 33.01
40620	2593.00				23.36	27.36	< 33.01
41515	2682.50				23.50	27.50	< 33.01
39725	2503.50	15	75	0	23.57	27.57	< 33.01
40620	2593.00				23.36	27.36	< 33.01
41515	2682.50				23.50	27.50	< 33.01
39750	2506.00	20	1	0	23.67	27.67	< 33.01
40620	2593.00				23.32	27.32	< 33.01
41490	2680.00				23.47	27.47	< 33.01
39750	2506.00	20	1	49	23.55	27.55	< 33.01
40620	2593.00				23.35	27.35	< 33.01
41490	2680.00				23.45	27.45	< 33.01
39750	2506.00	20	1	99	23.70	27.70	< 33.01
40620	2593.00				23.44	27.44	< 33.01
41490	2680.00				23.60	27.60	< 33.01
39750	2506.00	20	100	0	23.63	27.63	< 33.01
40620	2593.00				23.43	27.43	< 33.01
41490	2680.00				23.50	27.50	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
39675	2498.50	5	1	0	23.70	27.70	< 33.01
40620	2593.00				23.34	27.34	< 33.01
40565	2687.50				23.41	27.41	< 33.01
39675	2498.50	5	1	12	23.67	27.67	< 33.01
40620	2593.00				23.56	27.56	< 33.01
40565	2687.50				23.50	27.50	< 33.01
39675	2498.50	5	1	24	23.67	27.67	< 33.01
40620	2593.00				23.48	27.48	< 33.01
40565	2687.50				23.45	27.45	< 33.01
39675	2498.50	5	25	0	23.43	27.43	< 33.01
40620	2593.00				23.29	27.29	< 33.01
40565	2687.50				23.34	27.34	< 33.01
39700	2501.00	10	1	0	23.73	27.73	< 33.01
40620	2593.00				22.83	26.83	< 33.01
41540	2685.00				23.89	27.89	< 33.01
39700	2501.00	10	1	24	23.77	27.77	< 33.01
40620	2593.00				22.93	26.93	< 33.01
41540	2685.00				23.90	27.90	< 33.01
39700	2501.00	10	1	49	23.85	27.85	< 33.01
40620	2593.00				23.03	27.03	< 33.01
41540	2685.00				23.89	27.89	< 33.01
39700	2501.00	10	50	0	23.75	27.75	< 33.01
40620	2593.00				23.60	27.60	< 33.01
41540	2685.00				23.58	27.58	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
39725	2503.50	15	1	0	23.72	27.72	< 33.01
40620	2593.00				23.79	27.79	< 33.01
41515	2682.50				23.82	27.82	< 33.01
39725	2503.50	15	1	37	23.75	27.75	< 33.01
40620	2593.00				23.88	27.88	< 33.01
41515	2682.50				23.49	27.49	< 33.01
39725	2503.50	15	1	74	23.82	27.82	< 33.01
40620	2593.00				23.91	27.91	< 33.01
41515	2682.50				23.94	27.94	< 33.01
39725	2503.50	15	75	0	23.68	27.68	< 33.01
40620	2593.00				23.40	27.40	< 33.01
41515	2682.50				23.49	27.49	< 33.01
39750	2506.00	20	1	0	23.38	27.38	< 33.01
40620	2593.00				23.52	27.52	< 33.01
41490	2680.00				23.31	27.31	< 33.01
39750	2506.00	20	1	49	23.80	27.80	< 33.01
40620	2593.00				23.50	27.50	< 33.01
41490	2680.00				23.23	27.23	< 33.01
39750	2506.00	20	1	99	23.66	27.66	< 33.01
40620	2593.00				23.62	27.62	< 33.01
41490	2680.00				23.27	27.27	< 33.01
39750	2506.00	20	100	0	23.67	27.67	< 33.01
40620	2593.00				23.34	27.34	< 33.01
41490	2680.00				23.50	27.50	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 41_HPUE		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
39675	2498.50	5	1	0	26.25	30.25	< 33.01
40620	2593.00				26.28	30.28	< 33.01
40565	2687.50				26.45	30.45	< 33.01
39675	2498.50	5	1	12	26.34	30.34	< 33.01
40620	2593.00				26.22	30.22	< 33.01
40565	2687.50				26.49	30.49	< 33.01
39675	2498.50	5	1	24	26.26	30.26	< 33.01
40620	2593.00				26.19	30.19	< 33.01
40565	2687.50				26.47	30.47	< 33.01
39675	2498.50	5	25	0	25.21	29.21	< 33.01
40620	2593.00				25.19	29.19	< 33.01
40565	2687.50				25.39	29.39	< 33.01
39700	2501.00	10	1	0	26.20	30.20	< 33.01
40620	2593.00				26.19	30.19	< 33.01
41540	2685.00				26.45	30.45	< 33.01
39700	2501.00	10	1	24	26.38	30.38	< 33.01
40620	2593.00				26.21	30.21	< 33.01
41540	2685.00				26.30	30.30	< 33.01
39700	2501.00	10	1	49	26.44	30.44	< 33.01
40620	2593.00				26.27	30.27	< 33.01
41540	2685.00				26.53	30.53	< 33.01
39700	2501.00	10	50	0	25.29	29.29	< 33.01
40620	2593.00				25.17	29.17	< 33.01
41540	2685.00				25.41	29.41	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
QPSK							
39725	2503.50	15	1	0	26.44	30.44	< 33.01
40620	2593.00				26.28	30.28	< 33.01
41515	2682.50				26.39	30.39	< 33.01
39725	2503.50	15	1	37	26.39	30.39	< 33.01
40620	2593.00				26.26	30.26	< 33.01
41515	2682.50				26.34	30.34	< 33.01
39725	2503.50	15	1	74	26.44	30.44	< 33.01
40620	2593.00				26.29	30.29	< 33.01
41515	2682.50				26.27	30.27	< 33.01
39725	2503.50	15	75	0	25.29	29.29	< 33.01
40620	2593.00				25.29	29.29	< 33.01
41515	2682.50				25.33	29.33	< 33.01
39750	2506.00	20	1	0	26.25	30.25	< 33.01
40620	2593.00				26.33	30.33	< 33.01
41490	2680.00				25.96	29.96	< 33.01
39750	2506.00	20	1	49	26.21	30.21	< 33.01
40620	2593.00				26.28	30.28	< 33.01
41490	2680.00				26.21	30.21	< 33.01
39750	2506.00	20	1	99	26.21	30.21	< 33.01
40620	2593.00				26.26	30.26	< 33.01
41490	2680.00				26.14	30.14	< 33.01
39750	2506.00	20	100	0	25.25	29.25	< 33.01
40620	2593.00				25.28	29.28	< 33.01
41490	2680.00				25.41	29.41	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
39675	2498.50	5	1	0	25.29	29.29	< 33.01
40620	2593.00				25.04	29.04	< 33.01
40565	2687.50				25.51	29.51	< 33.01
39675	2498.50	5	1	12	25.32	29.32	< 33.01
40620	2593.00				25.58	29.58	< 33.01
40565	2687.50				25.59	29.59	< 33.01
39675	2498.50	5	1	24	25.27	29.27	< 33.01
40620	2593.00				25.51	29.51	< 33.01
40565	2687.50				25.53	29.53	< 33.01
39675	2498.50	5	25	0	24.23	28.23	< 33.01
40620	2593.00				24.17	28.17	< 33.01
40565	2687.50				24.30	28.30	< 33.01
39700	2501.00	10	1	0	25.01	29.01	< 33.01
40620	2593.00				25.12	29.12	< 33.01
41540	2685.00				25.75	29.75	< 33.01
39700	2501.00	10	1	24	24.96	28.96	< 33.01
40620	2593.00				25.10	29.10	< 33.01
41540	2685.00				25.91	29.91	< 33.01
39700	2501.00	10	1	49	25.07	29.07	< 33.01
40620	2593.00				25.19	29.19	< 33.01
41540	2685.00				25.93	29.93	< 33.01
39700	2501.00	10	50	0	24.36	28.36	< 33.01
40620	2593.00				24.36	28.36	< 33.01
41540	2685.00				24.33	28.33	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	EIRP (dBm)	Limit (dBm)
16QAM							
39725	2503.50	15	1	0	25.11	29.11	< 33.01
40620	2593.00				25.53	29.53	< 33.01
41515	2682.50				25.76	29.76	< 33.01
39725	2503.50	15	1	37	25.06	29.06	< 33.01
40620	2593.00				25.52	29.52	< 33.01
41515	2682.50				25.75	29.75	< 33.01
39725	2503.50	15	1	74	25.03	29.03	< 33.01
40620	2593.00				25.48	29.48	< 33.01
41515	2682.50				25.89	29.89	< 33.01
39725	2503.50	15	75	0	24.29	28.29	< 33.01
40620	2593.00				24.30	28.30	< 33.01
41515	2682.50				24.33	28.33	< 33.01
39750	2506.00	20	1	0	25.23	29.23	< 33.01
40620	2593.00				25.55	29.55	< 33.01
41490	2680.00				25.34	29.34	< 33.01
39750	2506.00	20	1	49	25.32	29.32	< 33.01
40620	2593.00				25.55	29.55	< 33.01
41490	2680.00				24.74	28.74	< 33.01
39750	2506.00	20	1	99	25.20	29.20	< 33.01
40620	2593.00				25.53	29.53	< 33.01
41490	2680.00				25.47	29.47	< 33.01
39750	2506.00	20	100	0	24.42	28.42	< 33.01
40620	2593.00				24.24	28.24	< 33.01
41490	2680.00				24.41	28.41	< 33.01
Note: The EIRP (dBm) = Output Power (dBm) + Antenna Gain (dBi)							

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/25
Test Band	LTE Band 71		

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
133147	665.5	5	1	0	22.73	23.58	< 34.77
133297	680.5				22.78	23.63	< 34.77
133447	695.5				22.80	23.65	< 34.77
133147	665.5	5	1	12	22.72	23.57	< 34.77
133297	680.5				22.82	23.67	< 34.77
133447	695.5				22.91	23.76	< 34.77
133147	665.5	5	1	24	22.68	23.53	< 34.77
133297	680.5				22.61	23.46	< 34.77
133447	695.5				22.78	23.63	< 34.77
133147	665.5	5	25	0	21.75	22.60	< 34.77
133297	680.5				21.79	22.64	< 34.77
133447	695.5				21.79	22.64	< 34.77
133172	668.0	10	1	0	22.77	23.62	< 34.77
133297	680.5				22.69	23.54	< 34.77
133422	693.0				22.76	23.61	< 34.77
133172	668.0	10	1	24	22.68	23.53	< 34.77
133297	680.5				22.72	23.57	< 34.77
133422	693.0				22.78	23.63	< 34.77
133172	668.0	10	1	49	22.69	23.54	< 34.77
133297	680.5				22.71	23.56	< 34.77
133422	693.0				22.71	23.56	< 34.77
133172	668.0	10	50	0	21.86	22.71	< 34.77
133297	680.5				21.83	22.68	< 34.77
133422	693.0				21.81	22.66	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
QPSK							
133197	670.5	15	1	0	22.70	23.55	< 34.77
133297	680.5				22.71	23.56	< 34.77
133397	690.5				22.81	23.66	< 34.77
133197	670.5	15	1	37	22.65	23.50	< 34.77
133297	680.5				22.73	23.58	< 34.77
133397	690.5				22.85	23.70	< 34.77
133197	670.5	15	1	74	22.63	23.48	< 34.77
133297	680.5				22.77	23.62	< 34.77
133397	690.5				22.79	23.64	< 34.77
133197	670.5	15	75	0	21.82	22.67	< 34.77
133297	680.5				21.80	22.65	< 34.77
133397	690.5				21.77	22.62	< 34.77
133222	673.0	20	1	0	22.71	23.56	< 34.77
133322	683.0				22.77	23.62	< 34.77
133372	688.0				22.92	23.77	< 34.77
133222	673.0	20	1	49	22.58	23.43	< 34.77
133322	683.0				22.70	23.55	< 34.77
133372	688.0				22.65	23.50	< 34.77
133222	673.0	20	1	99	22.70	23.55	< 34.77
133322	683.0				22.82	23.67	< 34.77
133372	688.0				22.66	23.51	< 34.77
133222	673.0	20	100	0	21.77	22.62	< 34.77
133322	683.0				21.74	22.59	< 34.77
133372	688.0				21.80	22.65	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
133147	665.5	5	1	0	21.45	22.30	< 34.77
133297	680.5				22.16	23.01	< 34.77
133447	695.5				22.15	23.00	< 34.77
133147	665.5	5	1	12	21.85	22.70	< 34.77
133297	680.5				21.48	22.33	< 34.77
133447	695.5				22.19	23.04	< 34.77
133147	665.5	5	1	24	21.72	22.57	< 34.77
133297	680.5				21.42	22.27	< 34.77
133447	695.5				22.15	23.00	< 34.77
133147	665.5	5	25	0	20.85	21.70	< 34.77
133297	680.5				20.80	21.65	< 34.77
133447	695.5				20.73	21.58	< 34.77
133172	668.0	10	1	0	22.14	22.99	< 34.77
133297	680.5				21.81	22.66	< 34.77
133422	693.0				21.59	22.44	< 34.77
133172	668.0	10	1	24	22.11	22.96	< 34.77
133297	680.5				21.76	22.61	< 34.77
133422	693.0				21.54	22.39	< 34.77
133172	668.0	10	1	49	22.05	22.90	< 34.77
133297	680.5				21.86	22.71	< 34.77
133422	693.0				21.41	22.26	< 34.77
133172	668.0	10	50	0	20.91	21.76	< 34.77
133297	680.5				20.85	21.70	< 34.77
133422	693.0				20.80	21.65	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

Channel No.	Frequency (MHz)	Channel Bandwidth (MHz)	RB Size	RB Offset	Output Power (dBm)	ERP (dBm)	Limit (dBm)
16QAM							
133197	670.5	15	1	0	22.17	23.02	< 34.77
133297	680.5				21.85	22.70	< 34.77
133397	690.5				21.97	22.82	< 34.77
133197	670.5	15	1	37	22.12	22.97	< 34.77
133297	680.5				21.79	22.64	< 34.77
133397	690.5				21.99	22.84	< 34.77
133197	670.5	15	1	74	22.08	22.93	< 34.77
133297	680.5				21.87	22.72	< 34.77
133397	690.5				21.87	22.72	< 34.77
133197	670.5	15	75	0	20.80	21.65	< 34.77
133297	680.5				20.75	21.60	< 34.77
133397	690.5				20.78	21.63	< 34.77
133222	673.0	20	1	0	22.01	22.86	< 34.77
133322	683.0				22.31	23.16	< 34.77
133372	688.0				22.18	23.03	< 34.77
133222	673.0	20	1	49	22.24	23.09	< 34.77
133322	683.0				22.06	22.91	< 34.77
133372	688.0				21.83	22.68	< 34.77
133222	673.0	20	1	99	22.10	22.95	< 34.77
133322	683.0				22.11	22.96	< 34.77
133372	688.0				21.90	22.75	< 34.77
133222	673.0	20	100	0	20.90	21.75	< 34.77
133322	683.0				20.84	21.69	< 34.77
133372	688.0				20.85	21.70	< 34.77
Note: The ERP (dBm) = Output Power (dBm) + Antenna Gain (dBi) - 2.15							

5.5. Band Edge Measurement

5.5.1.Test Limit

22.917(a), 24.238 (a), 27.53 (g) (h)

For operations in the 824 ~ 849 MHz, 1850 ~ 1910 MHz, 1930 ~ 1990 MHz, 600MHz & 698 ~ 746 MHz and 1710 ~ 1755 MHz, the FCC limit is 43 + 10log10(P[$_{Watts}$]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is 43 + 10log10(P[$_{Watts}$]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 (P[$_{Watts}$]), dB, for mobile and portable equipment.

27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

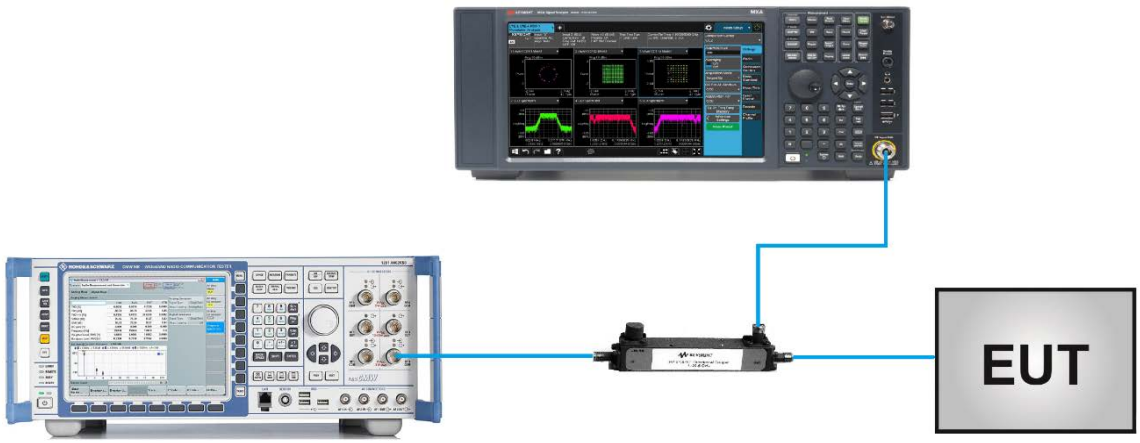
5.5.2.Test Procedure

ANSI C63.26-2015 - Section 5.7

5.5.3.Test Setting

1. Set the analyzer frequency to low or high channel
2. RBW ≥ The nominal RBW shall be in the range of 1% of the anticipated OBW (in the 1MHz band immediately outside and adjacent to the band edge). For improvement of the accuracy in the measurement of the average power of a noise-like emission, a RBW narrower than the specified reference bandwidth can be used (generally limited to no less than 1% of the OBW), provided that a subsequent integration is performed over the full required measurement bandwidth. This integration should be performed using the spectrum analyzer's band power functions.
3. VBW ≥ 3*RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to "free run."
7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

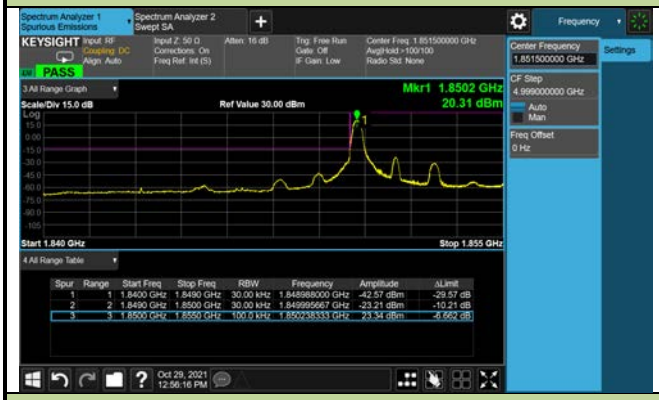
5.5.4.Test Setup

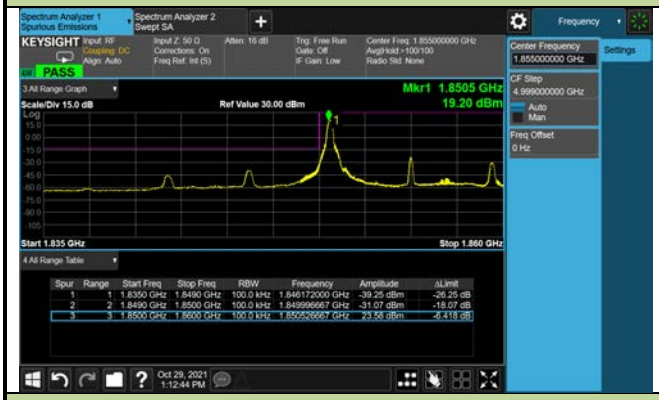


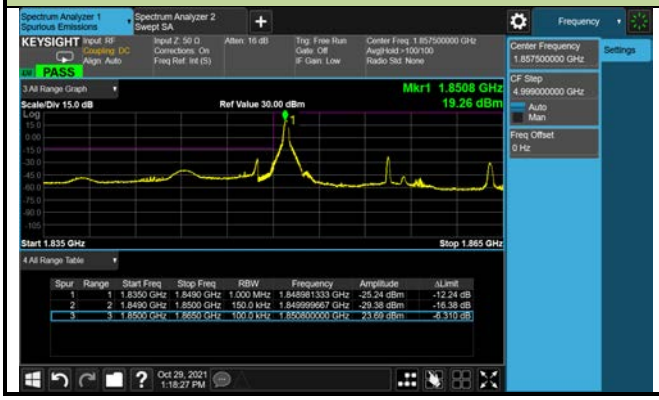
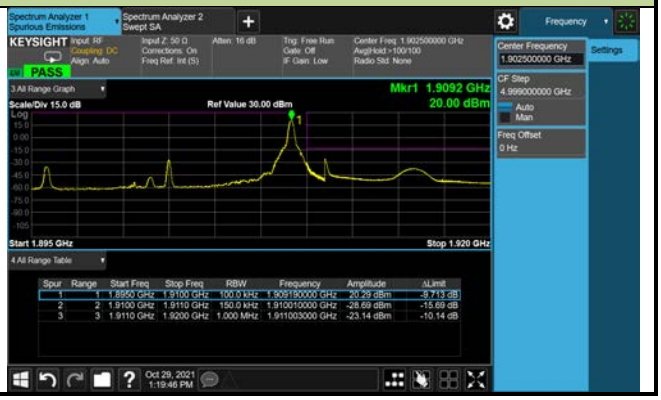
5.5.5.Test Result

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/29
Test Band	LTE Band 2/25_QPSK		

1.4MHz Channel Bandwidth - 1RB	
Lower Band Edge	Lower Extended Band Edge
	
Upper Band Edge	Upper Extended Band Edge
	

3MHz Channel Bandwidth - 1RB	
Lower Band Edge	Lower Extended Band Edge
	
Upper Band Edge	Upper Extended Band Edge
	
5MHz Channel Bandwidth - 1RB	
Lower Band Edge	Lower Extended Band Edge
	
Upper Band Edge	Upper Extended Band Edge
	

10MHz Channel Bandwidth - 1RB	
Lower Band Edge	Lower Extended Band Edge
	
Upper Band Edge	Upper Extended Band Edge
	

15MHz Channel Bandwidth - 1RB	
Lower Band Edge	Upper Band Edge
	

20MHz Channel Bandwidth - 1RB	
Lower Band Edge	Upper Band Edge
	

1.4MHz Channel Bandwidth - Full RB

Lower Band Edge

Lower Extended Band Edge

Upper Band Edge

Upper Extended Band Edge

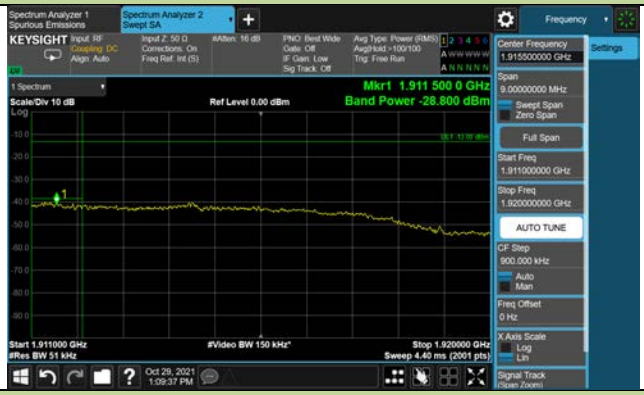
3MHz Channel Bandwidth - Full RB

Lower Band Edge

Lower Extended Band Edge

Upper Band Edge

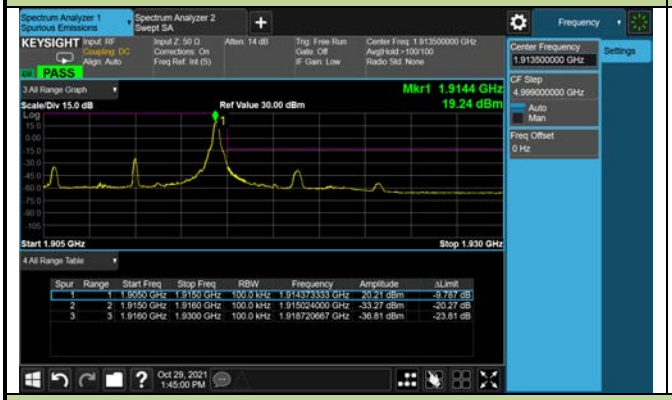
Upper Extended Band Edge

5MHz Channel Bandwidth - Full RB	
Lower Band Edge	
	
Upper Band Edge	Upper Extended Band Edge
	
10MHz Channel Bandwidth - Full RB	
Lower Band Edge	Upper Band Edge
	

15MHz Channel Bandwidth - Full RB	
Lower Band Edge	Upper Band Edge
	
20MHz Channel Bandwidth - Full RB	
Lower Band Edge	Upper Band Edge
	

Product	LTE Module	Test Site	SIP-SR1
Test Engineer	Candy Luo	Test Date	2021/10/29
Test Band	LTE Band 25_QPSK		

1.4MHz Channel Bandwidth - 1RB	
Upper Band Edge	Upper Extended Band Edge
	
3MHz Channel Bandwidth - 1RB	
Upper Band Edge	Upper Extended Band Edge
	
5MHz Channel Bandwidth - 1RB	
Upper Band Edge	Upper Extended Band Edge
	

10MHz Channel Bandwidth - 1RB	
Upper Band Edge	Upper Extended Band Edge
	
15MHz Channel Bandwidth - 1RB	
Upper Band Edge	
	
20MHz Channel Bandwidth - 1RB	
Upper Band Edge